

IN THE CLAIMS

Claim 1 (currently amended):

- 1 1. An optical device comprising:
- 2 an optical source for pumping input optical radiation centered around an
- 3 input wavelength; and
- 4 at least one adjustable output coupler, coupled with the optical source, for
- 5 controlling the input optical radiation at one or more output wavelengths
- 6 wherein the at least one adjustable output coupler is coated with a metal
- 7 coating in such a way that the reflectivity of the at least one adjustable output
- 8 coupler varies in response to applying stress, heat or electrical power to the
- 9 metal coating.

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (original):

- 1 4. The optical device of Claim 3, wherein the reflectivity of the at least one
- 2 adjustable output coupler varies in response to a control signal.

Claim 5 (original):

- 1 5. The optical device of Claim 3, further comprising:
- 2 at least one set of optical gratings, each optical grating of the set
- 3 converting the pumped optical radiation to wavelengths greater than or equal to
- 4 the input wavelength.

Claim 6 (original):

- 1 6. The optical device of Claim 5, wherein each optical grating of the set
- 2 comprises a chirped or an unchirped design, and the output wavelengths are
- 3 greater than the input wavelength.

Claim 7 (original):

1 7. The optical device of Claim 6, wherein each optical grating of the set
2 has a reflectivity of about one-hundred percent or less.

Claim 8 (currently amended):

1 8. A cascaded Raman resonator comprising:
2 an optical source for pumping optical radiation centered around an input
3 wavelength;
4 at least one set of optical gratings for converting the pumped optical
5 radiation to wavelengths other than the input wavelength; and
6 at least one adjustable output coupler for controlling the power of the
7 optical radiation propagating from the at least one set of optical gratings at the
8 wavelengths other than the input wavelength
9 wherein the at least one adjustable output coupler is coated with a metal
10 coating in such a way that the reflectivity of the at least one adjustable output
11 coupler varies in response to applying stress, heat or electrical power to the
12 metal coating.

Claim 9 (canceled)

Claim 10 (canceled)

Claim 11 (original):

1 11. The cascaded Raman resonator of Claim 10, wherein the reflectivity of
2 the at least one adjustable output coupler varies in response to a control signal.

Claim 12 (original):

1 12. The cascaded Raman resonator of Claim 10, wherein each optical
2 grating of the at least one set comprises a chirped or an unchirped design, and
3 wherein the wavelengths other than the input wavelength are greater than the
4 input wavelength.

Claim 13 (original):

1 13. The cascaded Raman resonator of Claim 12, wherein each optical
2 grating of the at least one set has a reflectivity of about one-hundred percent or
3 less.

Claim 14 (original):

1 14. The cascaded Raman resonator of Claim 12, wherein the at least one
2 set of optical gratings and the at least one adjustable output coupler are written
3 into or spliced onto an optical waveguide.

Claim 15 (currently amended):

1 15. A multi-wavelength cascaded Raman resonator comprising:
2 an optical source for pumping optical radiation centered around an input
3 wavelength; and
4 a Raman optical fiber comprising:
5 at least a first set of optical gratings for converting the pumped
6 optical radiation to wavelengths other than the input wavelength; and
7 at least one adjustable output coupler having a variable reflectivity
8 for controlling the power of the optical radiation propagating from the at least one
9 set of optical gratings at the wavelengths other than the input wavelength
10 wherein the at least one adjustable output coupler is coated with a
11 metal coating in such a way that the reflectivity of the at least one adjustable
12 output coupler varies in response to applying stress, heat or electrical power to
13 the metal coating.

Claim 16 (canceled)

Claim 17 (original):

1 17. The multi-wavelength cascaded Raman resonator of Claim 16, further
2 comprising at least a second set of optical gratings for converting the pumped
3 optical radiation to wavelengths other than the input wavelength.

Claim 18 (original):

- 1 **18.** The multi-wavelength cascaded Raman resonator of Claim 17,
- 2 wherein each optical grating of the at least first and second sets comprise a
- 3 chirped or an unchirped design, and wherein the wavelengths other than the
- 4 input wavelength are greater than the input wavelength.

Claim 19 (original):

- 1 **19.** The multi-wavelength cascaded Raman resonator of Claim 18,
- 2 wherein each optical grating of the at least first and second sets has a reflectivity
- 3 of about one-hundred percent or less.

Claim 20 (original):

- 1 **20.** The multi-wavelength cascaded Raman resonator of Claim 19,
- 2 wherein the at least first and second sets of optical gratings and the at least one
- 3 adjustable output coupler are written into or spliced onto the Raman optical fiber.